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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,166	08/21/2001	Yuji Sano	122.1466	6450
21171	7590	12/22/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LEE, WILSON	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/933,166

Applicant(s)

SANO ET AL.

Examiner

Wilson Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8,9-16,17-25,28-32,35,37-40,69,71-79,82-98 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,17,21-25,28 and 29 is/are rejected.
- 7) ☒ Claim(s) 2,3,8,18-20 and 30-32 is/are objected to.
- 8) ☒ Claim(s) 9-16,35,37-40,69,71-79 and 82-98 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **Remarks**

Applicants elects group I, species 1 of claims 1-8, 17-25, 28-32 without traverse on 11/02/04. For clarification, claims 33, 63-68, 70 have been cancelled. Claims 9-16, 35, 37-40, 69, 71-79, 82-98 are directed to non-elected species.

### **Claim Rejections – 35 U.S.C. 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamashita et al. (6,222,323).

Regarding Claim 1, Yamashita discloses a capacitive load (e.g. L1,1) driving circuit (See Figure 5) comprising:

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- a driving device (Sa1) connecting a high potential power supply line (e.g. supply line above J1) to an output terminal (a1) connectable to a capacitive load (L1,1) ; and
- a power distributing circuit (J1) connected between the high potential power supply line and the driving device (Sa1) without providing another power distributing circuit (e.g. there is no other current source connected between the ground and the driving device) between a low potential power supply line (GND) and the driving device (Sa1).

Regarding Claim 4, Yamashita discloses that the power distributing circuit is a constant-current device (J1) (See Figure 1).

Claims 1, 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Ide et al. (6,304,038).

Regarding Claim 1, Ide discloses a capacitive load (Co) driving circuit (See Figure 4) comprising:

- a driving device (22) connecting a high potential power supply line (to battery B1) to an output terminal connectable to a capacitive load (Co) ; and
- a power distributing circuit (21) connected between the high potential power supply line and the driving device (22) without providing another power distributing circuit between a low potential power supply line (Ground) and the driving device (22).

Regarding Claim 5, Ide discloses that a driving power supply source outputs a plurality of different voltage levels (during the activation on SW1-SW4), at equally divided voltage steps, to the high potential power supply line.

Regarding Claim 6, Ide discloses that the power distributing circuit (21) includes a plurality of power distributing units (B1 with SW3, C1 with SW1), one for each of the plurality of different voltage levels.

Regarding Claim 7, Ide discloses that each of the power distributing units has a function as a switch (SW1-SW4) for selecting one of the plurality of different voltage levels (See Figure 4).

### **Claim Rejections – 35 U.S.C. 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 21, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (6,222,323).

Regarding Claim 17, Yamashita discloses a capacitive load driving circuit comprising:

- a plurality of driving devices (Sa1, Sa2, Sa3 ... Sam) driving a plurality of capacitive loads (L1,1, L2,1, L3,1 ... Lm,1) and formed in an integrated circuit;
- and

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- a power distributing circuit (J1, J2, J3, ... Jm) connected between each of the plurality of driving devices (Sa1 to Sam) and a high potential power supply line (the supply line above J1 to Jm) without providing another power distributing circuit (e.g. there is not other current source connected between the grounds and the driving devices) between each of the plurality of driving devices (Sa1 to Sam) and a low potential power supply line (GND).

As discussed above, Yamashita essentially discloses the claimed invention but does not disclose the power distributing circuit being provided outside of the integrated circuit. However, it would have been obvious to one of ordinary skill in the art to fabricate Yamashita's power distributing circuit on another integrated circuit in order to ease the burden on packaging and assembly. Besides, it is held that making invention separable merely involves routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961).

Regarding Claim 21, Yamashita discloses that the power distributing circuit is a constant-current device (J1) (See Figure 1).

Regarding Claim 29, Yamashita discloses that the capacitive-load driving circuit is constructed as a driving module (5) for driving the capacitive loads (L1,1, L2,1, L3,1, ... Lm,1). As discussed above, Yamashita essentially discloses the claimed invention but does not disclose the module containing a plurality of driving integrated circuits. However, it would have been obvious to one of ordinary skill in the art to fabricate Yamashita's the driver switches (Sa1 to Sam) on a plurality of driving integrated circuits in order to ease the burden on packaging and assembly. Besides, it is held that

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making invention separable merely involves routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961).

Claims 17, 22-24, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ide et al. (6,304,038).

Regarding Claim 17, Ide discloses a capacitive load driving circuit comprising:

- a plurality of driving devices (SWZ10) driving a plurality of capacitive loads (Co) and formed in an integrated circuit; and
- a power distributing circuit (B1 with SW3, C1 with SW1, Vs with SW4) connected between each of the plurality of driving devices (SWZ10 to SWZmo) and a high potential power supply line (the supply line to B1, C1) without providing another power distributing circuit between each of the plurality of driving devices (SWZ10 to SWZmo) and a low potential power supply line (ground).

As discussed above, Ide essentially discloses the claimed invention but does not disclose the power distributing circuit being provided outside of the integrated circuit. However, it would have been obvious to one of ordinary skill in the art to fabricate Ide's power distributing circuit on another integrated circuit in order to ease the burden on packaging and assembly. Besides, it is held that making invention separable merely involves routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961).

Regarding Claim 22, Ide discloses that a driving power supply source outputs a plurality of different voltage levels (during the activation on SW1-SW4), at equally divided voltage steps, to the high potential power supply line.

Regarding Claim 23, Ide discloses that the power distributing circuit (21) includes a plurality of power distributing units (B1 with SW3, C1 with SW1), one for each of the plurality of different voltage levels.

Regarding Claim 24, Ide discloses that each of the power distributing units has a function as a switch (SW1-SW4) for selecting one of the plurality of different voltage levels (See Figure 4).

Regarding Claim 28, Ide discloses that a series connection of each of the power distributing circuit (21) and a switch device (e.g. SWZ1) is provided between each of the driving devices (SWZ10) and the high potential power supply line (See Figure 4).

#### **Allowable subject matter**

Claims 2, 3, 8, 18-20, 30-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ochi et al. (6,376,994) discloses an organic EL device comprising current source for distributing power to the switches. Kishita et al. (6,175,193) discloses a EL device comprising a power distributing circuit having a



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plurality of switches. Nolan et al. (5,861,861) discloses a voltage divider for providing voltage to LCD elements.

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wilson Lee  
Primary Examiner  
U.S. Patent & Trademark Office

12/20/04